

SEP 30 1952

P. 8

AN-AMERICAN fisherman

SEPTEMBER

1952

35c



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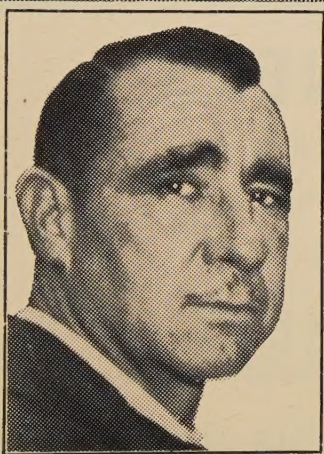
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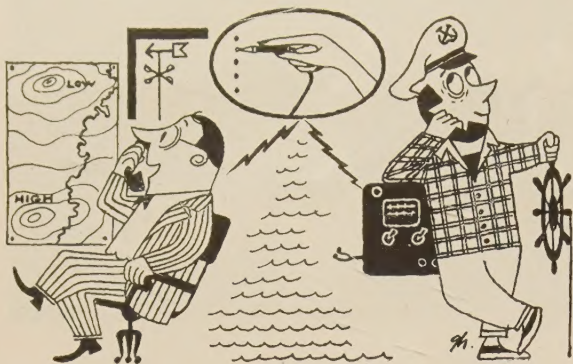
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DANFORTH ANCHORS

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London, England—The opening of a new fish cannery at Ayr in Scotland was reported in the July 1952 issue of **Food Manufacturers**, an American Consular dispatch in London states. It provides an outlet for the west coast fishing, which was badly needed, as it establishes a process point to handle the catch of the Clyde and west coast fisheries on the spot.

Ayr has been increasing in popularity as a port of landing because of the short haulage distance to the main markets, and its advantage over East Anglia in offering year-round seasons. The herring season in East Anglia is largely restricted to summer and early autumn. Should supplies of herring fall off the west coast, they can readily be imported.

The initial layout of the plant comprises some 5,000 square feet allocated in an ice factory which can be expanded with the progress and success of the plant. The present capacity is about 20,000 cans per day, rising to 30,000. The first pack will include herring in tomato sauce, fresh herring, and canned kippers. Later it is planned to pack vegetables and fruit. It is expected that this canned produce will find its way into the world markets but a certain proportion will go to home markets outlets.

Oslo, Norway—Nylon nets for herring fishing have been tested on the Norwegian research vessel **G. O. Sars**, states a July 2 American Embassy dispatch from Oslo. According to a report in **Fiskaren**, the catches made with these nets were from 80 to 100 per cent better than with the ordinary nets. However, it was more difficult to take the fish off the nylon nets, but attempts have been made to correct this by changing the size of the meshes in the nylon nets. It is estimated that a nylon net will last six times longer than a cotton net.

Future tests will be made by fishermen in the Icelandic fishing this summer.

Mexico City, Mexico—Following the discovery of new shrimp fishing grounds on the southwestern shores of Baja California early in June, the shrimp industry on Mexico's west coast enjoyed a short boom, states several American Consular reports from Mexico. A large part of the Mazatlan, Guaymas, and Santa Rosalia fleets sped for the new bed. During the first three weeks of the month their catches were large, but during the closing days of June many boats reported that it was difficult to find the shrimp there, just as it was on the coasts of the mainland.

The distance from any base of operations made trips to the new grounds expensive and, as the route to and from the new beds lay largely in the open Pacific, also dangerous for the small type of shrimp boat common to the industry in this area. At the end of the month, many boat owners decided to cease operations unless more "rich strikes" were reported.

The large catches and profits made by boat owners will aid many of them to weather the summer closed-season financially and to prepare for the opening of the new season in October. The shrimp season closes officially on August 1.

During May and June the Mazatlan freezing plants

operated at full capacity. Guaymas, which had continued operations in May and June were able to take care of all shrimp brought to that city, with its three plants, although the other four plants considered opening but the developments in late June made this impractical.

According to **Instituto de Pesca del Pacifico**, landings of shrimp in Guaymas were 237 metric tons in May, an eight month total for the season amounting to 2,872 metric tons, or 60 per cent as much as in the comparable period of the 1950-51 season. Landings in June estimated 200 tons.

MAZATLAN SHRIMP EXPORTS	1951-52	1950-51
	Season Pounds	Season Pounds
October	670,575	136,000
November	916,845	1,035,400
December	720,000	919,000
January	774,353	1,016,378
February	300,291	1,112,580
March	598,182	582,182
April	291,766	808,227
May	1,733,535	809,310
June	1,047,233	227,693
Total	7,054,780	6,552,770

Most of the shrimp exported from Mazatlan during May and June was of the size 12-15 count (heads off) and 16-20 count, and was sold for 80-85c (U.S.) a pound F.O.B. point of destination in the United States. During the month of June the freezing plants bought the shrimp from the boat owners at an average price of 9,400 pecos (U.S.\$1.087) a metric ton or about 49 U.S. cents per pound.

Ottawa, Canada—Insurance may be provided for Canada's fishermen and their boats according to a statement by the Canadian Fisheries Minister in the House of Commons, states a June 27 American Embassy dispatch from Ottawa. He said the scheme now under study by the Fisheries Department may turn out to be a three-way insurance with the fishermen, and the provincial and federal governments contributing. The insurance will cover the men's lives and their boats, but will not include the gear for the present.

A five-hour debate on Fishery Department expense estimates, later passed, resulted in the Canadian Fisheries Minister pointing out:

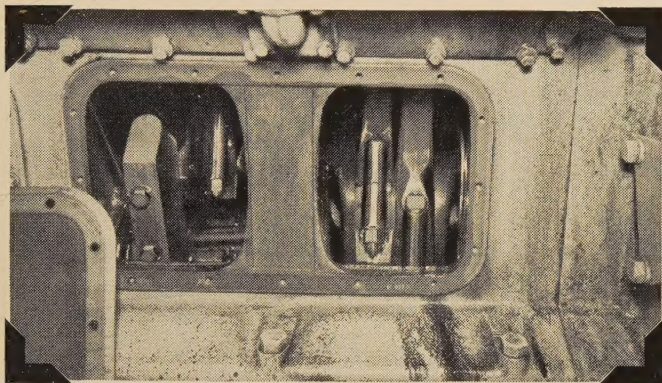
- (1) Some of the British Columbia's surplus canned salmon may be sent to Canadian forces in Korea.
- (2) Legislation prohibiting foreign fishing vessels from having shore rights at East Coast ports, except Newfoundland, may be revised.
- (3) The Fisheries Council is studying the possibility of widening the list of fishermen's gear now exempt from sales tax.
- (4) Although subsidizing the building of certain types of fishing boats, the government is opposed to any direct subsidy to fishermen who have poor catches as this might curb incentive to produce.

He also stated that in general the fishing industry is continuing to grow and that prices for salt water and fresh-water fish were holding up well.

STANDARD ENGINEER'S REPORT

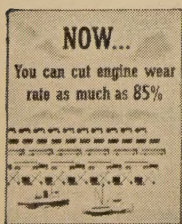
LUBRICANT	DATA <i>RPM DeLo Oils</i>
UNIT	<i>Caterpillar D-375 diesel</i>
SERVICE	<i>Coastal fishing— bottom fish</i>
CONDITIONS	<i>Constant load</i>
FIRM	<i>A. Paladini, Inc. Fields Landing, Calif.</i>

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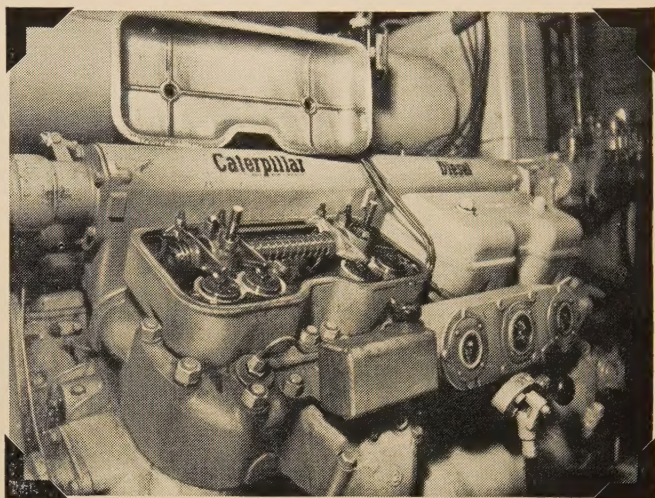


AFTER 4146 HOURS of steady work in the 270 H.P. supercharged diesel propulsion engine of the Catherine Paladini below; note how clean and free from deposits RPM DELO Supercharged—2 Lubricating Oil has kept parts. Crankcase drains and filter changes at 1500-hour intervals have shown no sludge, according to Axel Bjork, Skipper. He says, "The engine ran perfectly during the more than 4000 hours of tough work—if anything, it runs better now than at first."

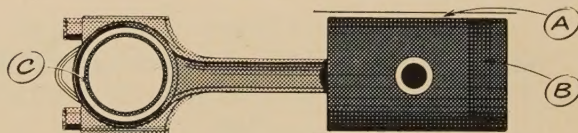
THE 73-FOOT-LONG CATHERINE PALADINI has a 19.6 beam. She fishes from Oregon to San Francisco, bucks heavy seas and tides on trips that last from three days to over a week. Seas were exceptionally heavy during the past winter, giving her new engine an extra tough workout.



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STANDARD OIL COMPANY OF CALIFORNIA

PAN-AMERICAN
fisherman

VOL. VII—NO. 2

SEPTEMBER
1952

"NEWSmagazine of PAN-AMERICAN FISHERIES combined with the magazine TUNAfisherman"

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About this Issue . . .

BEHIND THE COVER

Remember last year when albacore fishermen protested and sold their catches at dockside for 25 cents per pound fresh?

The "Story of Tuna" comes to us through the courtesy of The Tuna Research Foundation, and was compiled by the Theodore R. Sills and Company of New York. See Page 8.

"Australian Prawnng was submitted by the Australian News and Information Service. We believe it will be of interest to shrimp fishermen, as well as packers and marketing agents. See Page 10.

Walter "Hank" Richards comes in again this month with some ideas on the buying habits and merchandising angles. See Page 12.

PAN-AMERICAN *fisherman*

NEWSmagazine of PACIFIC FISHERIES

A MARINE PRESS ASSOCIATION PUBLICATION

GENERAL OFFICES, Broadway Pier, San Diego 1, California

Telephone: San Diego, Franklin 7328

ROBERT K. LAWSON, Editor

Fred W. Walters
Advertising Director

Ellen Wintersteen
Circulation Manager

September 1, 1952

TUNA INDUSTRY SUPPLIERS
California, Oregon, Washington
United States of America

Gentlemen:

The recent defeat in the Senate of the bill imposing a three cent tariff on fresh frozen fish imports, emphasized to the TUNA INDUSTRY the monumental importance of a "voice" that would be heard by the greatest number of persons who should be acquainted with this huge INDUSTRY'S problem.

Heretofore, there has been no effective medium through which the "voice" of the TUNA INDUSTRY could make itself heard in the right places; to present it's problems; and, to make a concerted effort to protect itself against crippling aggressions.

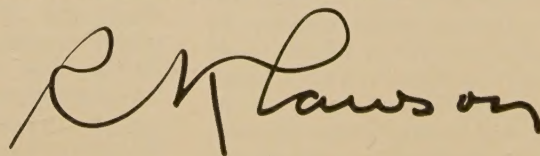
The defeat of the tariff bill has simply amplified the vital need for a "voice" in one particular instance; yet it points clearly to a much greater need in the future when similar and sundry encroachments intrude upon the INDUSTRY'S welfare, security and prosperity.

PAN-AMERICAN FISHERMAN magazine stands ready and competent to provide this "voice" for the TUNA INDUSTRY and for all TUNA INDUSTRY SUPPLIERS through the medium of it's editorial pages and the facilities of it's wide circulation.

To accomplish this end, effectively, however, PAN-AMERICAN FISHERMAN magazine must depend upon the whole-hearted support of those TUNA INDUSTRY SUPPLIERS--as it now depends upon the TUNA INDUSTRY.

SUPPORT---to PAN-AMERICAN FISHERMAN magazine---means the necessary advertising revenue to meet the expenses of this tremendous undertaking; and, conversely, advertising means continued business for those TUNA INDUSTRY SUPPLIERS through the survival of the TUNA INDUSTRY itself.

Yours very truly,
PAN-AMERICAN FISHERMAN



Robert K. Lawson-Editor

RKL:ew

California Supplies $\frac{1}{3}$ of the Nation's Seafood—Pan-American Fisherman is California's Only Commercial Fishing Magazine

THE STORY OF

**Tuna
Research
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TUNA



WHAT CAN of tuna on your shelf has a story to tell . . . a story of the fish of the sea; of the men who catch them; of the fishing boats that roam the ocean for months at a time; of the canneries where the prize of the fishermen is packed for consumer use; and finally of the nutrition, economy, versatility and flavor qualities that have made tuna America's largest sea-food industry in the course of a few years.

The Industry and The Fish

The tuna industry in the United States had its beginnings as recently as the first World War. The food shortage and economic stress of that period of history created a demand for a protein-rich food . . . and tuna was the answer. The new product, canned tuna, soon achieved popularity; and by 1921 the canneries located in San Diego and San Pedro, California, were packing substantial quantities of tuna along with their other products.

Before long, fishermen in the ports of San Diego and San Pedro were fishing primarily for tuna. They found the tuna a swift-swimming fish of the tropical, sub-tropical and temperate oceans of the world; a fish that spawns its eggs on the high seas. When the eggs hatch, the young float at the mercy of the currents while they are developing. As the young grow into adults, they school together in large formations which move rapidly from place to place searching for food. The tuna feeds voraciously, swims with great speed, and covers long distances. In no way bound to the land, the tuna is truly a creature of the open ocean.

Today the primary types of tuna caught are the yellowfin, the skipjack and the albacore. However, until 1926, the fishery was based almost entirely upon albacore, a bullet-shaped tuna of snow-white flesh and bland flavor that grows to the size of fifty-five to sixty pounds. In that year, there began one of those long-term cyclic changes in oceanographic conditions which occur off southern California. The warmer currents from the South invaded the in-shore area, and suddenly the albacore disappeared completely from the coastal waters.

However, with the warmer water came new types of tuna . . . the yellowfin and skipjack, both tuna with light fresh,

rosy pink in color, and with a richer, fuller taste than albacore. The skipjack tuna averaged between twelve and fifteen pounds in weight, while the yellowfin tuna ranged up to two hundred and fifty pounds.

The Fishing Fleet

The market grew steadily. With its expansion arose the need for a more stable supply of product; and for the canneries, a more stable supply of raw material. It was found that yellowfin and skipjack tuna occurred in the whole area from southern California to northern Peru, a 3-500-mile stretch.

As a consequence, revolutionary changes were necessary in the fishing fleet, which heretofore had consisted of small boats capable of venturing only a few miles from port for trips of a



day's duration. Adaptations were effected in the design of the vessels . . . and the tuna clipper was born.

The clipper could travel ten thousand miles if necessary before going back to port; could remain away for one hundred and twenty days or more; and could carry a load of tuna ranging from fifty to five hundred tons. Most important of all, the size of the vessel provided space for the quantity of auxiliary machinery necessary for keeping the fish under solid refrigeration.

This transformation in the fishing fleet, which had transpired gradually during the 1930's, was sharply interrupted by the outbreak of war in the Pacific. The effect upon the industry was immediate. The tuna clipper was precisely the vessel the Navy wanted for the job of supplying the troops in the isolated garrisons of the South Pacific. Some of the tuna clippers were taken directly from the fishing grounds and sent to the war zone. In the course of a few months, sixty per cent of the ves-

sels of the fleet were fighting the war. At the time of the Battle of Midway, the entire remaining fleet of tuna vessels were put to sea under Navy command as a screening force to prevent a surprise attack on the West Coast or the Panama Canal.

The production of the tuna clipper fleet, gone-to-war, thus fell sharply and quickly. Into a vacuum of enormous demand and very short supply stepped the small boats. With new talents, new experience and increased activity came much new information. The albacore had not disappeared after all. The fish had returned and could be caught within twenty to two hundred miles off the coast of North America in heavy commercial quantities. Before long, almost every small-boat skipper along the Pacific Coast became an albacore fisherman.

The small-boat fleet had undergone many changes since 1926 when the albacore had vanished from the in-shore areas of California. The boats were now seaworthy enough to go out as far as five hundred miles, and were equipped with radio, long-range navigational equipment, etc. Thus, while the war lasted, the albacore fleet met the tuna demand.

It wasn't until 1948 that the tuna clippers had recovered sufficiently from their war losses to once again become the main producers of tuna. With the return of the larger boats, yellowfin and skipjack tuna reappeared on the market. At the present time, these two species comprise approximately eighty-five per cent of the total tuna caught.

The Tuna Clipper

Today there are more than two hundred high seas tuna clippers in operation. Together, they account for more than seventy per cent of the yellowfin and skipjack landings. The clippers, which range in length from sixty-five to one hundred and fifty feet, are sturdy craft equipped with refrigerated holds for brine-freezing the fish at sea. They carry crews from nine to eighteen men,

(Continued on page 14)

EBB 'n FLOW

TUNA TARIFF

Dispatches from the American Embassy in Peru report that the Peruvian press, business and public reaction to the defeat of the fresh and frozen tuna bill in the U. S. Senate has been strongly favorable. Editorials praised the defeat, and described this action as a demonstration that the Good Neighbor Policy meant more than mere words. Likewise the Japanese praised President Truman, Secretary Acheson, Vice President Barkley and Finance Chairman Walter George for defeat of the bill.

The following is quoted, in part, from an editorial in the June 27th *Nippon Times*, Tokyo: "We cannot stress enough that Japanese tuna exporters must not take action which would needlessly stir up American tuna interests. The voluntary limitations placed on tuna exports by Japanese exporters at 12,000 tons for frozen tuna and at one million boxes for canned tuna for the one-year period from April, this year, to March, next year, must be strictly observed. And in the matter of price, the bottom price of 300 dollars a ton agreed upon by the Japanese exporters should be maintained and adjusted only in accordance with the fluctuations of the prices in the United States. The defeat of the tuna bill must not change in any way the Japanese position of according full consideration to the American tuna industry. The U. S. Senate has, by its vote on this issue, clarified its keen understanding of the Japanese trade problems and its friendly concern for the welfare of the Japanese people. It is only proper that we do nothing to mar that relationship. We look forward to the continuance of friendly trade ties between the United States and Japan."

Meanwhile the Japanese Government and tuna industry are concerned over the possibility that canned tuna may be shipped to the United States from Japan via Canada and South American countries to avoid the Japanese control limiting annual exports of this item to the United States in the amount of 1,000,000 cases. Appropriate units of the Government and industry are considering the need for check prices on tuna exports to these countries in relation to check prices on exports to the United States, together with certificates of destination.

JAPAN EXPORT PERMITS

Canned crab, salmon, salmon trout, and oysters have been designated by the Japanese Ministry of International

Trade and Industry as items requiring permission to export. Controls have been imposed on these products in order to prevent possible dumping on certain markets, according to a June 25 Toyko report quoted by the Canadian Department of Trade and Commerce in its publication *Foreign Trade* (July 19, 1952).

YELLOWTAIL TAGGING

The "N. B. Scofield," ocean-going research vessel operated by the California Department of Fish and Game, has just completed a cruise in Mexican waters, where 220 yellowtail were caught, tagged and released as part of the State's continuing marine research program.



SALMON EXPERIMENTS

Two north Puget Sound creeks have been selected by the Department of Fisheries for experiments with pink salmon reared in saltwater at the Deception pass marine research station.

Normally, pink salmon leave the stream for sea soon after emerging from the gravel as fry, and holding them at freshwater hatcheries for growth has not proved satisfactory.

At the Deception pass station, however, artificially hatched pinks have been converted to saltwater in about 3 weeks and fattened on natural marine foods until reaching a size that guarantees good survival rates after planting. These fish are then released into brackish estuarial water at the mouth of a river. Tests with pink salmon planted in the Samish river estuary have shown that the survivors will return to that river even though they were reared at Deception pass.

This summer 3,500 Nooksack river

pink salmon 5 months old were liberated at the mouth of Dakota creek, and 10,400 at the entrance to California creek. The young "humpies" had reached a size in the 155-day period comparable to yearling silver salmon.

The two streams were selected chiefly because they have had no pink salmon runs in recent years, and returns in the summer of 1953 will be indicative of the success of the estuarial planting method.

The Department of Fisheries, under Supervisor of Research Donald R. Johnson, and Supervisor of Hatcheries C. H. Ellis, is using similar methods in an effort to establish an even-year pink salmon run on Puget Sound. The species occurs in Washington waters only on odd-numbered years. This year eggs from Skeena river stock in upper British Columbia will be hatched at Samish river hatchery for planting in 1953.

DRIFT CARDS

In order to study ocean currents along the west coast, three research agencies are releasing "drift cards" on their current oceanographic survey cruises. Residents of seaside towns along the coast are asked to assist in the study by returning the cards, which in the next few weeks will be carried on to the beaches by the current.

Participating in the project are the Department of Oceanography of the University of Washington, the Exploratory Fishing Section of the U. S. Fish and Wildlife Service, and the University of California's Scripps Institution of Oceanography.

Seven thousand cards will be released by the Scripps Institution's vessels, *Spencer F. Baird*, *Crest*, and *Paolina T*. The Scripps vessels are working south from San Francisco to Cedros Island, Baja California. The cards are being released north of San Francisco by the U. S. Fish and Wildlife service vessel *John N. Cobb* and the University of Washington's *Brown Bear*.

The cards are postage-free postcards enclosed in a heat-sealed plastic envelope. A paper clip has been placed with each card to weight the package so that it will float in a vertical position. Each card is numbered. Finders are asked to return them to the U. S. Fish and Wildlife group in Seattle, giving the name and address of the finder, and when and where the card was found.

Upon receipt of the card, the Fish
(Continued on page 17)



(Photo by W. Brindle)

King prawns from deep water average 7 inches in length.

EVANS HEAD, on the north coast of New South Wales, has lately come into prominence as a prawning port, second only to Stockton near Newcastle, 200 miles farther south. Between them they have an annual production of some 1,000,000 lb. weight of prawns, subject of course to seasonal fluctuation. In the record year ended June 30, 1950, the New South Wales yield reached 2,800,000 lbs., mainly from these two ports. It is a curious fact that Australian prawning grounds, on present evidence at least, are limited principally to this one State, although smaller quantities are also caught in Queensland and Western Australia. A remarkable feature of these grounds, compared with those of countries overseas, is that they live so close inshore that trawlers do not have to go more than four or five miles out to sea and frequently their catches of school prawns are made within a few hundred yards of shore.

Stockton, on Newcastle Harbour, has easy access to the ocean, but trawlers leaving Evans Head must first negotiate that treacherous bar. Sometimes there is a well-defined channel; sometimes shifting sands block the narrow mouth of the river completely, and boats can pass through only at a time of high tide.

But the little prawning fleets sails all the same, even if no more than half-a-dozen skippers think it worth venturing to sea. Usually they carry out their trawling operations by day, preferably in the early morning, but in the last months of summer school prawns have proved unaccountably scarce in daylight hours and the men have taken to fishing by night. It is tough work if anything of a sea happens to be running. With good judgment these trawlers,

with their three foot six draught, can usually negotiate this bar, even though two have foundered there in the past year, one a total loss.

By the time night falls each trawler had its long net out, coasting along at two or three knots, navigation lights swaying on the ocean swell. At times, when the prawns have been running in numbers, as many as 40 boats can be seen at sea, though their permanent bases may be at the mouths of other rivers along the coast. In Stockton Bight the prawning fleet is larger, numbering about 60 vessels.

Solidly-built craft, ranging from 30 to 60 feet, they carry as a rule a master and a crew of two. The two deckhands are employed on a share basis, the master taking half the proceeds of the catch, the others one quarter each. There is good money to be gained from deep-sea prawning, and crew members may earn an average of £A25 (\$56) a week averaged over a year. (The £A1 is reckoned to be capable of buying as much in Australia as \$5 will here.)

The trawling nets are 16 fathom long, shaped like a long tapering bag with an inch and a half to a two inch mesh. Each wing is attached to a large rectangular board, about the size of a door. Dragged along the bottom of the ocean at the end of some 150 or more feet of wire, these keep the net wide open while each sweep is made.

The length varies according to the depth of the beds being worked, for the general practice is to run out three times as much mire as would be needed to reach the bottom vertically. Most of the prawns in Australian waters are the smaller school prawns, which are to be found in fairly shallow water near the coast. The king prawns are found in 30 fathoms. These two types of prawns belong to different species.

The king prawn (*Peneus plebejus*) measures up to seven and eight inches long; the school prawn (*Peneopsis macleaya*) averages about five and the New South Wales Fisheries Department has made it illegal to catch prawns of less than four inches, thus ensuring that

young prawns will not be taken before they have had time to breed. The king prawn when cooked goes a deep red, whilst the school prawn is pink. The latter is held, by many people to have a more delicate flavour. The king prawn, incidentally, is closely related to the type caught in United States waters, for both belong to the species *plebejus*.

The labour of hauling nets aboard has been lightened considerably by the use of winches, wires being caught up over a steel roller on the starboard side astern. Whether they catch an abundance of prawns or not, the net will be pretty heavy, for all manner of marine life is dragged up from the ocean's floor. There will be squid octopus, sea lice, blubbers, stingrays, starfish, small fish of many kinds and perhaps a few larger ones that make good eating, like flathead or flounder. All of them are emptied together into a long galvanized iron tub, shaped like a bath.

Sometimes a small shark gets caught in the net, and has to be dispensed with. If the fishermen are unlucky, it may make a hole in the net as it struggles to escape, and the prawns will probably be lost too. If the net does happen to be holed, the fishermen must take time off to rig another, and then the trawl begins again.

Once a catch has been landed, the slow business of sorting starts. All the "rubbish," such as squid and minute fish, are thrown back to sea. Technically this sorting has to be done by hand, though in actual fact the unwanted marine life is scooped out with flat mesh ladles, thus obviating the risks of bites and stings.

Fishermen at Stockton are starting to use a new and ingenious machine for sorting prawns into different sizes. It consists of a box-like structure, some four feet high, with a wide aperture at the top into which the prawns are fed. Inside is a series of glass tubes agitated by power supplied from the boat's auxiliary engine. These separate the large and small prawns, which then fall into different boxes on the deck. Known as the Allan Prawn Grader,

(Continued on page 15)

Know Your Seafoods

LARGE VARIETY FOR DAILY MENUS

THE TUNA RESEARCH FOUNDATION

With a can of tuna on the shelf, it's easy to vary those Friday night supper dishes. Versatile as well as nutritious, protein-packed tuna can satisfy the appetites of the most overworked husband or the most energetic youngster. Best of all, the feat can be accomplished on a streamlined budget.

Try these tuna supper dishes on your family and see. You can be sure of a successful meal if you remember to always use canned tuna from California, tuna packed at its flavorful best.

TUNA CHEESE SANDWICH SPREAD (Makes about 1½ cups))

- 1 8-ounce package cream cheese
- 1 7-ounce can solid-pack tuna
- 1 tablespoon lemon juice
- 1 small onion, grated
- ½ clove garlic, finely minced
- ½ teaspoon paprika

In a bowl, blend cream cheese with oil drained from tuna. Flake tuna with fork. Add tuna to cheese; mix well. Add remaining ingredients and beat with electric beater or wooden spoon until mixture is smooth and thoroughly blended. Spread on buttered bread to make sandwiches.

TUNA STEW (Makes 4-6 servings)

- 6 medium-sized carrots
- 6 medium-sized stalks celery
- 8 small white onions
- 1 cup water
- 1 teaspoon salt
- Milk
- 2 tablespoons butter or margarine
- 1 7-ounce can solid-pack tuna
- 2 tablespoons flour
- 1 cup grated processed American cheese
- Freshly ground pepper

Cut carrots and celery into 1-inch pieces. In a saucepan, combine vegetables, water and salt; cover. Place over medium heat and bring to boiling point. Let boil gently 15-20 minutes, or until vegetables are just tender. Remove from heat. Drain off liquid and measure; add additional milk to make 1 cup. Turn vegetables into a bowl.

In the saucepan, melt butter or margarine over low heat. Add oil drained from tuna. Add flour and blend well. Add milk and vegetable liquid; cook until thickened, stirring constantly. Add cheese and stir until cheese is melted. Break tuna into large pieces with fork. Add tuna, cooked vegetables and pepper; mix lightly and heat thoroughly. Serve piping hot.

Tuna au Gratin (Makes 4 servings)

- 1 tablespoon butter or margarine
- ⅓ cup minced green pepper
- 3 tablespoons minced onion
- 2 tablespoons butter or margarine
- 2 tablespoons all-purpose flour
- 1 cup milk
- ½ teaspoon salt
- ⅓ teaspoon freshly ground pepper
- ½ teaspoon Worcestershire sauce
- 1½ tablespoons chopped canned pimiento
- 1 7-ounce can solid-pack tuna, drained

In a skillet, melt 1 tablespoon butter or margarine over low heat. Add green pepper and onion; saute five minutes. In a saucepan, melt 2 tablespoons butter or margarine over low heat; add flour and blend. Add milk and cook until thick, stirring constantly. With a fork, break tuna into large chunks. Add salt, pepper, Worcestershire sauce, pimiento, tuna, sauteed green pepper and onion. Pour into 4 greased individual casseroles. If desired, sprinkle grated cheese on top of each casserole. Bake in moderate oven (375°) 15 minutes, or until bubbly. Serve piping hot.



Appetizing chunks of tuna top these individual casseroles of Tuna au Gratin . . . a nutritious and economical menu suggestion for a family supper.

Recipes Kitchen-Tested in the Home Economics Department of . . .

Theodore R. Sills Company, 137 East 57th Street, New York 22, N. Y.



Advertising Counselor

Walter "Hank" Richards

BY GUESS and by-God may have been the only way of doing business in the unlamented "not-so-good-old-days," but in these modern times alert Tuna canners are turning to Market Research Surveys as guideposts to the future merchandising of more product.

One major canner has thoughtfully provided us with the results of a recent survey conducted in the Southern California area among housewives and grocers, covering certain questions most often discussed by those charged with selling more Tuna.

The interviews, conducted in Santa Ana, Southgate and Newport Beach, were made conversationally rather than by list questioning and no reference was made to any particular company or brand during the questioning.

How Housewives Regard Price

1. Very few housewives consider the price of Tuna out of line with general prices. Approximately 80% did not have a definite scale for comparison. Those who did, compared the price of Tuna with that of Salmon, Veal and Chicken.

2. Approximately 60% felt they would buy more Tuna if the price is lowered.

3. Around 10% had used no Tuna in the last six months.

In the opinion of the researcher, the seeming contradiction in the answers

Tuna Market Surveys

By

WALTER "HANK" RICHARDS

demonstrates that more aggressive selling is necessary rather than a price reduction.

Wives Reveal Buying Habits

1. Of the women questioned, only 10% always bought the same brand. (This would seem to indicate that Tuna's emphasis upon "brand" alone in advertising has not been quite as effective as has been generally supposed.)

2. Three-fourths did not know the difference between packs by name. Most stated only that "they didn't like it too mushy." Those who always bought solid pack seemed to do so under the impression that it was very superior in quality. *Not one housewife showed a knowledge of the use of pack with relation to recipe.* (In this connection, when the researcher had obtained the answers, he made a point of discussing the various packs and their applications and found a very high degree of interest in the information, obviously pointing up an avenue of improvement in Tuna's advertising copy and public relations on the Household pages of the magazines and newspapers.)

3. The average purchase seemed to be two cans and the researcher judged (although with some difficulty), that a larger proportion of women habitually keep Tuna on hand in greater quantity than most other products. (This would seem to indicate that a slight advantage in purchasing three-can to five-can packs would tend to influence more women to stock up.)

4. Investigating the idea of packaging Tuna in 12-can cartons, it was found that approximately 25% of the housewives thought they would buy it in this quantity if it offered a saving. (The large pack would seem to be especially attractive to larger families. National statistics indicate a marked rise in the size of families. The war babies, often three or four to a family, are now a Tuna market to be reckoned with, many of them having arrived at that active, hungry school age when they need all the body-building protein they can

get. Their harassed parents are hard pressed to provide it on their moderate incomes, and are looking for bargains in high-protein foods such as Tuna. There should be a real demand for 12-can family packs.)

5. Only about 5% bought Tuna for dish days only. (The figure quoted would be higher in communities of larger Catholic populations, such as Chicago and Boston.)

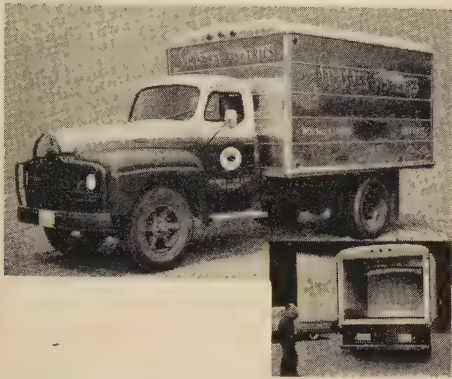
6. A very high proportion of those who used no Tuna had never tried it because they "didn't like fish." (It is my opinion that a proper campaign pointing up the nutritive advantages of Tuna, supplying as it does, minerals and vitamins fresh from Mother Nature's own storehouse, the Sea, would sell some of the scornors of fish, particularly if it would be pointed out that Tuna has a flavor all its own and can't be said to "taste fishy.")

7. Knowing that Tuna was originally marketed as a Chicken substitute, an attempt was made to find out whether the "substitute" idea might be affecting the sale of Tuna as a food in its own right. There was no indication that this was so although the idea is difficult to check without leading the answers. (In this connection, the writer some time ago queried certain midwestern farm editors and radio commentators for suggestions on what should be done to increase Tuna sales in rural areas. Almost without exception the answers came back, "Sell Tuna as Tuna." The farm housewife with a thousand hens in the backyard isn't likely to buy a substitute for what they already have in abundance.")

8. One housewife, in California only a week, said she came from Michigan and had seen no Tuna there cheaper than 57c a can. She was amazed at the reasonable local price. (I encountered the same situation with visiting relatives from Pittsburgh and New York. All agreed they'd use more if the prices were more in line with California's.)

(Continued on page 16)

PROGRESS & PRODUCTION



ALUMINUM BODY CUTS COST

Salasnek Fisheries of Detroit has a special Fruehauf aluminum truck body which is saving enough money to easily pay for itself within two years. In addition, the gleaming aluminum job is creating so much attention along the highway because of its striking and neat appearance that the Salasneks are claiming an additional dividend in good will.

The particular mission of this truck is to leave the fishery headquarters in Detroit each morning for a trip along the north shore of Lake Erie, about as far east as Port Stanley, Ontario, and, occasionally, as far as Dunnville. Making stops at the fisheries along the way the truck brings back fresh water fish of a dozen or more varieties, for a total load of approximately 10,000 pounds.

This run is made every day, and occasionally another additional shorter run is made along the same shore. Where the truck saves money on this particular haul is due to the fact that it must cross the Detroit River at least twice daily and every time it crosses, because of the lower weight of the body by the use of aluminum, thirty-five cents is saved on each crossing, or a minimum of seventy cents per day. Because of the number of second trips made, the Salasneks estimate that there is an average of one dollar per day saved on crossing over the bridge, from Detroit to Windsor, Ontario.

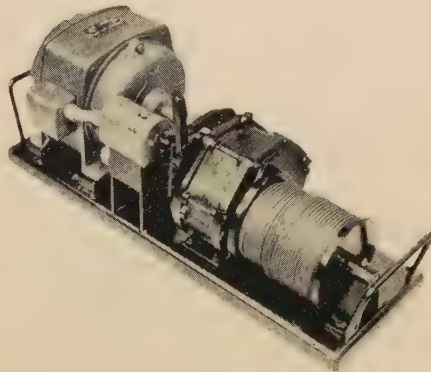
TUGGER WINCH

A sturdy, portable power winch, engineered for a versatile range of pulling and lifting jobs, is being marketed by Stampco Products, Minneapolis, Minn.

Designed as a low cost, multi-purpose winch, the *tugger* is equipped with either electric or gasoline power units

ranging in size from $\frac{3}{4}$ H.P. to $7\frac{1}{2}$ H.P. and mounted on a fabricated all-steel base. Two gripper-type carrying handles facilitate moving the winch about on the job. In operation, the *Tugger* base is secured by $\frac{1}{2}$ inch lag bolts and provides a stable platform for pulling or lifting. The *Tugger* generates a line pull of from 500 lbs. to 1500 lbs. at speeds ranging from 55 to 220 ft. per minute.

The *Tugger* motor is instantly reversible and is operated by a conveniently located control lever. A positive, cam acting mechanical brake is automatically applied when the motor is shifted to neutral, providing complete safety of operation. Optional is a built-in centrifugal governing brake which



controls the speed of a free-running or free-falling load.

Tugger base dimensions range from 12" x 32" on the smallest model to 12" by 42" on the largest.

For literature and complete price information, write Dept. KP, St. Anthony Machine Products Co., 2424 E. Franklin Ave., Minneapolis 6, Minn.

TURNER HALSEY TO MARKET NYLOCK ABROAD

Turner Halsey Export Corp., 40 Worth Street, New York City, has been appointed exclusive foreign sales agent for Nylock netting twines, it is announced today by Willard S. Heminway, president of Heminway & Bartlett Mfg. Co., makers of Nylock.

"Our company has been receiving an increasing volume of inquiries about Nylock from fishing interests the world over," Mr. Heminway stated. "Now that the increased availability of nylon is enabling us to catch up with domestic requirements, we are ready to extend

Nylock to the world market. Some Nylock nets made by American manufacturers have found their way to other countries and have again proven superior.

"Turner Halsey, with its broad experience, well-known name and excellent reputation, is in a position to handle foreign demands for all sizes of Nylock twine and to increase the export trade."

CASE DIVERTER

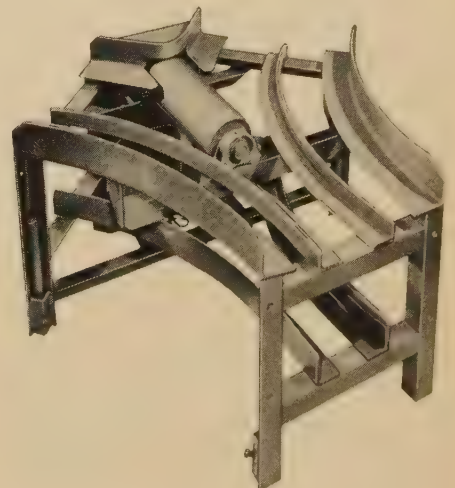
Conveyor Specialties Co., St. Paul, has announced development of a new conveyor Case Diverter, designed for use with case conveyor systems.

Electrically driven and controlled, the Case Diverter consists of a conveyor "switching" section located at the intersecting "Y" of diverging tracks. As a case enters the "Y," it rides on a pitched tubular steel roller which rotates in either direction at the operator's signal. Rotation of the tube diverts the case onto the desired track where it is picked up by the conveyor chain.

Direction of roller spin is controlled by a manually operated drum reversing switch, convenient to the operator. Power is supplied by a $\frac{1}{2}$ H.P. gear-head motor.

The Conveyor Specialties case diverter is all-steel and all-welded. Degree of curve or type of "Y" can be varied according to the user's specifications. Adjustable supports are furnished with each unit.

Conveyor Specialties Co. manufactures a comprehensive line of Bottle, (Continued on page 17)



TUNA

(Continued from page 8)

and are capable of voyages of more than ten thousand miles and trips lasting as long as three to four months.

On the tuna clipper, fishing is done with hooks and lines and live bait. Each clipper carries its own bait boats, usually two skiffs and one motor boat. The bait, which is primarily a sardine-like fish called the anchovetta, is caught in seines and stored in wells on the clipper until ready for use. Two hundred pounds of bait comprise the average requirement for each ton of tuna caught.

Once a school of tuna is sighted, a fisherman called a "chummer" dips out the live bait and throws it overboard to attract the fish. The tuna strike, and the fishing begins.

Racks along the sides of each clipper are lowered to permit the fisherman to stand at water level. This system, plus the leather pole-sockets strapped around the fishermen's waists, allows for additional leverage when hauling up the tuna. All the fishing is done with a pole and line to which an unbarbed hook is attached. A feathery lure, called a "squad" . . . a favorite food of the tuna, is also attached to the line. As soon as the tuna bites, the line is whipped back and the tuna flies off the barbless hook into the boat. The fishing is very fast, and a tuna clipper manned with twelve fishermen can land as much as sixty tons of fish during a five to six hour period.

To cope with different weights of fish, a system of multiple pole fishing has been developed. For a 35-pound fish or under a one-man pole is ample. For a 35-60-pound fish, two poles with a common leader and one hook are used; for fish in the 60-100-pound category, three poles are used; and for fish over one hundred pounds, four poles are used. The fish are referred to as 1-, 2-, 3-, or 4-pole fish.

The Purse Seiner

Supplementing the tuna clippers, approximately one hundred and seventy purse seine vessels based at San Pedro, California, operate more or less continuously in the tuna fishery. Purse seining is a method of fishing in which large nets are employed to capture the fish. The net is towed by means of small row boats in a circle around the school of tuna. A heavy chain loops through the net and acts as a drawstring to enclose the fish in a purse-like pocket . . . hence, the term "purse seining." The purse seiners are most active during the months when the fish swim in schools. Since the purse seiners have a limited cruising range, they are confined largely to areas near the coast.

The Albacore Boat

In addition to the tuna clippers and purse seiners, the small albacore boats operate along the shoreline of the United States. Two methods of fishing are used in the albacore fleet . . . trolling and bait fishing with bamboo poles. Vessels range in size from twenty-five to sixty feet. The smaller boats have one or two men in the crew and fish by the trolling method. Boats over forty feet may have from two to five men in the crew. It is estimated that over three thousand vessels were engaged in this fishery during the 1950-51 season.

The Fisherman

The fishermen themselves are a very religious, God-fearing group of people. An important feature of every tuna clipper, for instance, is the little chapel for religious worship. At the home ports of San Diego and San Pedro, the fishermen have their own settlements and each year religious fetes are held, usually celebrated with the timeless ceremony of the blessing of the fleet.



The honorable and highly respected occupation of the fisherman is very much a family tradition, with the sons following their fathers out on the high seas for generation after generation. The fisherman, from necessity, is courageous, fearless and strong. Often he is away from his family for months at a time. Commercial fishing is fraught with danger, and storms and angry seas have claimed many a fishing boat.

The Canneries

A clipper returning from a fishing expedition heads straight for the docks behind the canneries for unloading. The unloading operation begins immediately, and is accomplished by means of huge buckets which are lowered by derricks into the holds of the vessels, are filled with tuna, and dumped into carts for transportation within the cannery proper.

The fish, after thawing and cleaning, are pre-cooked in steam ovens at a temperature of 218° for three to six hours depending on the size of the fish.

Once cooked, the fish are cooled for ten to twelve hours, and then moved to the cleaning tables where the bones, skin and dark meat are removed. Only the big lateral muscles of the tuna, called loins, are processed so that the can of tuna that results consists of the most edible meat. Between 2.2 and 2.3 pounds of raw fish make one pound of canned fish.

The meat is then chopped to size and packed in cans. Before the cans are sealed, salt and soybean oil are added. The sealed cans are then taken to a retort and cooked for ninety minutes in a pasteurization process.

All of the canneries are spotlessly clean, with stainless steel fixtures throughout. Careful inspection accompanies each process, and government inspectors are spotted throughout the canning areas to guarantee that only the best of the tuna is packed.

An important by-product of the canning operation is fish meal. This is a powdery substance made from the skin, dark meat, heads and tails, bones, fins, etc., of the fish. Fish meal, which consists of sixty per cent protein, is used primarily in chicken feed. Minor by-products are fish oil, used in the manufacture of paints, and concentrated fish solubles, an important vitamin source for poultry and animal feeding.

Canned Tuna as a Food

Practically speaking, all of the tuna sold in the United States is in canned form. The canned product falls into two general types. The white meat tuna is canned only from albacore. The other types of tuna, such as yellowfin and skipjack, are classified as light-meat tuna.

In the United States, only six species of tuna are entitled to be labeled "tuna" when canned. These species are the yellowfin, the skipjack, the albacore, the bluefin, the Oriental tuna and the little tuna. The related species of bonito and Pacific yellowtail can not legally be marketed as tuna.

Grades of Canned Tuna

There are three principal grades of canned tuna: the solid-pack tuna which consists of three large pieces of loins with a small percentage of smaller pieces to fill out the can; the chunk-size tuna; and the flake or grated tuna which consists of the small pieces which result from breaking up the tuna in the process of making the two grades. At the present time, approximately ten per cent of production is white meat tuna or albacore. The remainder is light meat. Of the ninety per cent, about twenty-five per cent is solid-pack; thirty per cent, chunk-size; and thirty-five per cent is flake or grated tuna. The popular can

(Continued on page 16)

PRAWNS

(Continued from page 10)

this is the invention of an Australian, after whom it has been named.

Since the Stockton fishermen send their prawns "Green" by motor truck some 100 miles to the Sydney fish markets each day, they are kept alive on board in the sorting tank, which is filled with water. As they near Newcastle Harbour, the fishermen transfer them to large fish baskets. These are taken ashore and handed over to the local fishermen's Co-operative Store and the prawns are transferred to large wooden trays with wire mesh bottoms to be stored in a refrigeration chamber.

The Co-operative has an up-to-date cooking plant and, after a good catch, the place springs to industrious life. There may be several thousand pounds weight of prawns to be treated, all in the one day. Steam from the boiler room is piped into four copper cookers, each with a capacity of 120 lbs. Men empty the trays of green prawns into these cookers and boil them for three or four minutes, after which they are scooped into round wire baskets, about two feet in diameter, and placed in a long wooden trough of water to cool. Great care has to be taken to ensure that the prawns are cooked for exactly the right time, since they tend to toughen if left in boiling water too long. They are judged to be fully cooked, not only by the change in colour to red or pink, but by the fact that the flesh under the top part of the shell shrinks a little.

After their initial cooling in the trough, the baskets of prawns are placed in a 12-foot galvanized iron tank, which contains large blocks of ice. Next the prawns are tipped on to a short wooden tray sprinkled with a course salt to improve flavour and raked into tubs placed on a weighing machine, after which they are packed with crushed ice into 50 lb. boxes and stored in another cool chamber until need of delivery.

Refrigerated motor trucks take prawns from Evans 100 miles north to Brisbane, to the many dairying towns in the vicinity and also to rail-heads for carriage to Sydney. Prawns for Sydney are also carried by air. In times when large catches have been made, air freighters have flown large quantities as far south as Melbourne and Tasmania, 1,000 miles away.

Deep-sea prawning has been known in Australia only during the past four years. Previously, prawns had been caught only in lakes and estuaries, more primitive methods being used to net them. It was known, of course, that the prawns did find their way out to sea to breed, though no information was avail-

able as to their habits or where they spawned.

The introduction of the present type of fishing was due to the New South Wales Department of Fisheries. In 1947 the Department began attempts to locate the spawning beds. Its director, Mr. T. C. Roughley, B.Sc., suggested to one Stockton fisherman who owned a Danish seine boat that, if at any time his catch of fish proved poor, he might put his net over the side and trawl for prawns. He did so, and the results were astonishing.

Before long many of the fishermen operating out of Newcastle had switched their attention from fish to prawns. Soon after prawns were discovered in quantity off Evans Head and the mouths of three rivers in northern New South Wales, the Richmond, Macleay and Tweed. The annual average catch of 1,000,000 lbs. is at present valued at £A262,000 (\$536,880).

Although the length of the catching season has not yet been finally determined it is generally accepted as lasting between eight and nine months. The dominant catch consists of the smaller school prawn, which is found close in-shore, but considerable quantities of the king prawn have been obtained further out to sea.

A notable feature of the prawning grounds in Stockton Bight is that they have been fished day and night for the past four years, yet there are no signs of them being netted out. During the last year the 60 fishing boats owned by members of the Newcastle and District Fishermen's Co-operative have achieved a turnover of some £A200,000—\$448,000—80 per cent of it was for prawns alone. The Evans Head Co-operative with 40 share-holders made gross earnings of £A110,000—\$240,400—in the same 12-month period.

When the prawns are not running, fishermen return to trawling and trapping for fish as they have done for many years. Main types of fish caught are snapper, flathead, flounder and leatherjacket. Crayfish are also caught in traps in lesser quantities. Returns supplied by the Evans Head Co-operative are revealing. For example, between July and September, 1951, the Co-operative handled 262,845 lbs. of fish, prawns and crayfish, and during November and December an additional 132,226 lbs.

The average investment in trawling vessel and nets amounts to £A3,000—\$6,720. But so good has fishing proved in recent years that the net return for the first twelve months of operations has usually covered this initial investment.

"There's no doubt," said the manager

of the Evans Head Co-operative, Mr. William Gollan, "that prawns have made this port what it is today. Its population of 300 is almost double what it was a few years ago."

The best catch the Evans Head fleet has yet made in a single day was 11,000 lbs. of prawns. Sometimes as much as 2,000 lbs. has been landed in a single haul. This was during the bumper harvest of 1951. But the current year has not proved so bountiful up to the present time. Reasons for this are not yet clear, though the N. S. W. Department of Fisheries is carrying out investigations into all aspects of the life and habits of prawns.

"We have a biologist working on these problems," said Mr. T. C. Roughley. "He is trying to determine the movement of prawns from place to place, their spawning habits and the general economics of the industry. Today fishermen may locate large quantities, and yet in the course of a day or two none may be found at all. This scarcity may last several days before large catches are again made. It is thought that when the prawns moult, as they do apparently at frequent intervals, they burrow, of course, because they are soft-bodies without shells and, consequently, very vulnerable to those fish which feed upon them. They probably remain in the mud until new shells harden, after which they come again to the surface.

"But these things are not yet known with any certainty. It is one of the aspects that are now being investigated. There appears also to be a certain limited migration of prawns towards and from the coast. We are now trying to determine whether there are any physical characteristics influencing this, such as the state of the tides or the phases of the moon. If these causes can be found it will mean that fishermen can trawl with greater certainty, instead of operating under the methods of trial and error in use at present."

Meanwhile the prawning fleets continue to put to sea. They sail out in good weather and bad. They pay out their long nets, haul them in at the stern of their sturdy little boats, cruise up and down the coast under the hot summer sun or on squally nights when the trawlers pitch and roll unceasingly in breaking seas. All the same, there is a good living to be won from this style of fishing, and prawns have become a popular delicacy in Australian restaurants and homes.

(Footnote:—Prawns were retailing at 7/—(78c) a pound in Sydney on June 30. A plate of prawns containing prawns weighing up to a total of half a pound cost about 7/6—(84c)—in leading restaurants.)

SURVEYS

(Continued from page 12)

9. Most significantly, about 25% used Tuna ONLY IN SANDWICHES, and, of the remainder, ONLY A FEW HAD MORE THAN THREE RECIPES IN THEIR FILES. (I feel that this bears out what I have been driving at in all the articles I have written for PAN-AMERICAN FISHERMAN during the past year. That EVERY Tuna ad should contain a recipe that can be clipped out and used again and again by housewives.)

10. The researcher found it difficult to obtain an estimate as to whether a larger can at a saving would be advantageous, but was of the opinion that it would be worth a thorough check. (I quite agree with the researcher. With big families becoming the rule again rather than the exception, the market for a bargain pound-can might well exist.)

Storekeeper's Viewpoint

The researcher felt that the interviews with storekeepers were less satisfactory than those with the housewives, probably because they consider Tuna a minor item while the large proportion of housewives were very much interested in it.

1. About half felt that people were buying largely by price, about a quarter felt that brand was the factor. The rest had no opinion. (I found grocers in the Phoenix-Mesa-Chandler area of Arizona expressing the same views in about a like proportion. Here again, is an indication that Tuna advertiser's policy of drumming "brand" alone and overlooking the business of selling Tuna's vital advantages and how to prepare it, has not been as effective as is generally believed.

2. Most grocers felt that sales bore no relation to "fish days." (Here again, it must be pointed out that in towns of greater Catholic population, the reverse might well be true. I doubt if anyone in the Tuna industry underestimates the Catholic trade and fish days.

3. One to two cans was considered an average order. (This was the same as the housewives.)

4. Only a small proportion considered that a 12 can carton would be helpful. (Quite a difference of opinion between grocers and customers on this point. The researcher opined that the fact that some of the reduction would necessarily come out of the grocer's margin may have been a factor in the way they answered this one.)

5. Most storekeepers who expressed an opinion believed in advertising. (Here, we are getting "masculine" view-

point from busy men. They see ads for Tuna in their magazines at night when they go home. If questioned further, they might also say they have seen Tuna advertised on TV. It is doubtful if they take the time to read the household pages of their morning paper and doubly doubtful that they take the time away from their business of keeping store to listen to daytime radio as countless housewives do.)

6. Almost all of the grocers would be willing to allot more space to Tuna if they had promotional help. The idea that seemed to find most favor was a large card containing Tuna recipes



which be changed frequently. Other ideas such as a display of photographs of fishing and small recipe books given wide distribution, were considered and found some approval.

The researcher found that most of the storekeepers were not overenthusiastic but all seemed willing to accept any promotional help. The opinion was formed that salesmen equipped with promotional aids would be well received and might increase sales materially. (In my recent article, "Advertising Is Tuna's Only Salesman," I pointed out the fact that grocers are too busy with a multitude of problems to spend much time pushing any particular product; that the demand for Tuna must be built up by advertising and public relations alone.)

TUNA

(Continued from page 14)

size is the 7-ounce can for the solid-pack tuna, and the 6½-ounce can for the chunk size and grated tuna.

Nutritional Value of Tuna

Nutrition-wise, tuna is one of the greatest of all protein foods. Actually, it wasn't until the drastic meat shortage during the first World War that the attention of nutritionists, economists and dietitians was directed to fish as an important protein source. A critical evaluation of experiments conducted during that period and since has indicated that fish protein has a high biological value which is probably somewhat above that of beef protein and equivalent to milk protein.

Fish protein supplies the body with a rich source of amino acids, the essential building block of body protein. It has been proved that the daily requirements of essential amino acids are amply supplied by an average serving of canned tuna.

Noteworthy is the high content in canned tuna of B12 and Animal Protein Factor, a growth factor which builds body protein and develops vital red blood cells.

Tuna also provides a considerable portion of the daily minimum requirement of iodine, the element which prevents the development of goiter.

Another feature of tuna is the high fluorine content which contributes to tooth development and helps protect against future dental decay.

Tuna also ranks high in phosphorus which builds strong bones.

In substantial quantity, too, are the A and D vitamins as well as the B group such as thiamine, riboflavin and niacin, which are all-important for maintenance of normal metabolism and growth.

Versatility and Economy Values of Tuna

The value of tuna to the homemaker, however, extends far beyond its nutritional qualities. One of its greatest advantages is its versatility. Not only does tuna make a flavorful dish when served alone, but it lends itself in combinations with so many other foods: to such "extenders" as egg noodles, spaghetti and macaroni; or to egg dishes such as omelets and souffles; or to an endless number of vegetables. When combined with another food in casseroles and main-course dishes, a single seven-ounce can of tuna is ample for as many as four to six servings.

The economy value of tuna is another advantage. There is absolutely no waste in a can of tuna which is packed compactly and compressed to assure solid value to the homemaker.

Salads, salad dressings, sandwich spreads, relishes and sauces, hors d'oeuvres, gelatin molds, casseroles, fish cakes, loafs, chowders and bisques, pastries, etc., are some of the many ways

(Continued on page 20)

Progress & Production

(Continued from page 13)

Belt, Gravity and Chain conveyor systems, in addition to conveyor doors and allied equipment. For detailed information on the Case Diverter, write Dept. KP, Conveyor Specialties Co., 666 E. Third St., St. Paul, Minn.

TUTHILL PUMP GUIDE

A new type of reference chart on small pump applications has just been developed by Tuthill Pump Company, Chicago.

In one convenient table (letterhead size), this guide lists the various types of Tuthill pumps, the services for which each is built, the performance characteristics, types of packing, styles of mounting, and features that distinguish each model. Thus, selection of the proper pump for the purpose is simplified, it is stated.

Copies of this helpful reference table are available on request to Tuthill Pump Company, 939 East 95th Street, Chicago 19, Illinois.

NEW UNIVERSAL MOTOR

The assembly lines of the Universal Motor Company, Oshkosh, Wisconsin, are humming with the production of an entirely new marine motor. Named the Unimite Four, this new model is announced as America's most powerful four-cylinder motor for its size—delivering 65 horsepower at 3400 r.p.m.

In revealing details of the Unimite Four, R. G. Klieforth, president, emphasizes that this is a genuinely new motor from every standpoint and not a revamp of an older model. By way of stressing its new design, Mr. Klieforth points to its large piston displacement of 141 cubic inches. "It is this greater displacement," he states, "that gives the Unimite its greater power at moderate engine speeds. More piston displacement," he goes on to say, "makes it an easier working engine with greater lugging ability and reserve power."

Specifications of the Unimite Four show that it has a $3\frac{1}{4}$ " bore and $4\frac{1}{4}$ " stroke. Its fully counterbalanced crankshaft is dynamically balanced for smoother operation and longer life. Precision insert bearings are used in the three main crankshaft bearings, as well as in the crankshaft end of the connecting rods. The motor measures only 31-15/16" overall, and it weighs only 450 lbs.

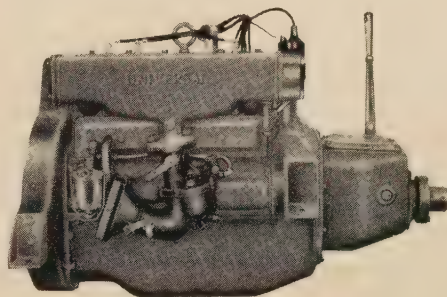
In the announcement, Universal says the Unimite Four is a thoroughly proved motor with thousands of hours of the hardest service behind its design. In every test it has demonstrated unusual dependability and operating economy.

It is extremely smooth over its entire speed range, and is instantly responsive to throttle changes.

In setting up the requirements for this new design, one of the prime objectives was that it be of the smallest possible size. "Space-saving small size, we have found," Mr. Klieforth states, "is of vital interest to boat owners today. The trend to smaller boats has created a real need for a small engine of big power like this." Its compact dimensions, light weight, and ample power make it especially well suited for kit boats, both runabouts and cruisers.

Deliveries of the Unimite Four are now being rushed to Universal dealers all over the country so that boat owners may enjoy the best part of the boating season with this new, more powerful marine motor.

Complete information on the Unimite Four is ready for mailing. Address the Universal Motor Company, Oshkosh, Wisconsin.



Ebb 'n Flow

(Continued from page 9)

and Wildlife Service will notify the finder when and where the card was released.

Notices on the cards are printed in English and Spanish. Many of the cards are expected to be borne by the currents to the shores of Baja California.

Drift card studies such as this offer oceanographers much needed information on the great currents that sweep down our coast. Such data supplement that obtained by use of shipboard instruments. The information is useful in many oceanographic and fisheries studies.

STREAM IMPROVEMENT

More than \$100,000 will be spent this year and during 1953 for stream improvement work on the lower Columbia river watershed, it was announced today by the Washington Department of Fisheries.

The project will include blasting of natural falls to make upstream areas

accessible to salmon and steelhead trout, the construction of fishways, and the removal of log jams.

Sixty per cent of the \$100,000 allocated for work on natural falls will be spent this year. Included are rapids on the Coweeman, Little Kalama, East Lewis, and Washougal rivers; Baird, Cameron, Mulholland, Ostrander, Olequah, King, Rock, Copper, Cedar and Green Fork creeks.

On the Grays river, the removal of three old splash dams and the blasting of several cascades will open approximately 30 miles of rich spawning and rearing grounds not now accessible to salmon. The cost of this work is estimated at \$8,800.

A field crew will be employed to re-survey and inspect projects already completed. Repairs to fishways are embraced by this \$11,200 maintenance project.

The work is being financed by the federal government under the lower Columbia river development program, and executed by the Washington Department of Fisheries. When completed in 1957, the over-all program will have cost \$1,500,000 and opened approximately 300 miles of productive stream not previously available to migratory fish, or barred to them by long-standing man-made obstructions.

CALIFORNIA SHRIMP RESOURCES

Two California farmer-businessmen from the San Joaquin Valley, who recently took up commercial fishing, are reporting \$300-a-day catches of shrimp from grounds off Morro Bay, a July 2 news release from the California Department of Fish and Game states. Discovered by that department in 1941, and seriously studied by its marine biologists in 1950 and 1951, the offshore shrimp beds were opened for commercial trawling April 1. Three-year permits were issued under carefully formulated gear and bag regulations.

Although a total of 46 permits have been issued by the department, the two farmer-businessmen aboard the *Grace H.* (accompanied occasionally by another Morro Bay boat) are the only men on the California coast who have installed the required beam-trawl gear and are giving the newly-discovered sea shrimp concentrated effort.

The five known shrimp beds are scattered in the Pacific at 50 to 100-fathoms deep, from Crescent City to Morro Bay.

The problem of marketing the small shrimp has stopped other permittees from all-out efforts. California sea-food processors have been reluctant to set up special "shrimp lines" of workers to

(See Next Page)

clean and pack the catch. They want advance assurance of steady landings by

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RADIO PROGRAM

On Friday, August 1, the CBC began a program designed to serve the commercial fishermen along the B.C. coast.

Tom Leach, the commentator for the Farm and Fish Department of the CBC in the British Columbia region, has completed arrangements to provide, on a daily basis, information of landings and pack of various species of fish, and also a complete marine weather service.

The B. C. Fisherman's Broadcast will provide the widest possible radio coverage for the coastal area. With the initial broadcast on Friday, August 1, the Pacific network of the CBC opened one hour earlier (7:00 a.m.) to give distribution over CBU, CBRX (short-wave), and CFPR, Prince Rupert. This arrangement is expected to reach practically every radio receiver along the entire coast—from Alaskan waters to well south of Vancouver Island. In addition, the program will be broadcast by many of the smaller transmitters of the CBC located throughout the interior of the province.

Mr. Leach said there had been some question about the use of standard-wave broadcasts for the fishermen's program. "Many people are under the impression that the B.C. fishing fleet is entirely

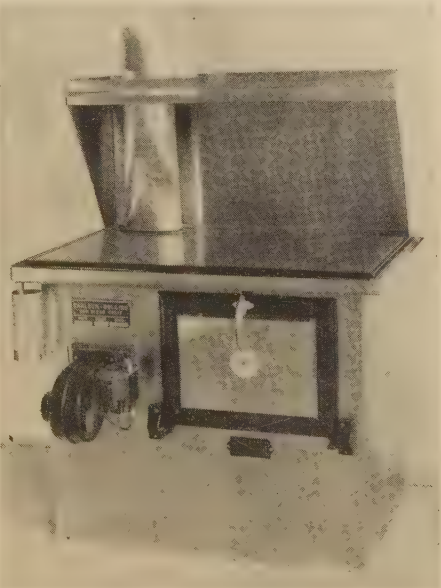
equipped with short-wave radio transmitters and receivers and all other modern apparatus which would make the operators self-sufficient. That is not entirely true.

"While many of the larger seine boats and draggers are well prepared to pick up short-wave weather forecasts and also have ship-to-ship or ship-to-shore telephones, there are still, not hundreds, but thousands of smaller craft in B.C. waters which depend solely on standard-wave radio for all weather and other information.

"More large vessels are entering the fishing business each year. The newer gillnetters are larger and more high-powered than their predecessors—just as the earlier boats were better powered and equipped with the canoes of our original fishermen, but there will be many small fishermen along the coast for years. They are entitled to the same information respecting good fishing areas, weather, and other facts which might have some influence on their catch. We hope to continue giving that service for a long time to come—from Monday to Friday, each morning at 7 o'clock."

To secure the basic data for the broadcast, the CBC has worked out a close liaison with the Federal Department.
(Continued on next page)

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ment of Fisheries and the Dominion Public Weather Office in Vancouver.

For several years the CBC has provided a similar service to Maritime fishermen, broadcast from its station at Halifax. The program gives weather forecasts plus information on catches, landings, markets and other news relevant to the industry.

UNITED KINGDOM RESEARCH

Among other investigations by the United Kingdom's Department of Scientific and Industrial Research, those on the freezing and cold storage of fish continue, priority being given to the development of a suitable labor and space-saving plant for freezing fish at sea. A small pilot plant, freezing large slabs of fish between moveable, vertical, directly-refrigerated plates, has been designed and installed on board the research vessel *Keelby*, according to the July 1952 issue of *Food Manufacture* quoted by an American consular dispatch from London.

This pilot plant quick freezes blocks up to 5 inches thick of cod or similar fish weighing up to 112 pounds at an evaporating temperature of -30° F. to -35° F. The fish are merely dropped or poured in, their weight providing sufficient contact with the metal. The frozen slab is released by warming with compressor gas.

If mechanical filleting at sea should become possible and blocks of fillets frozen, preliminary tests show that a very high freezing performance would be possible even at -10° F. or 0° F. when cost, weight, space, and power consumption of condensing units would be considerably reduced.

In recent work on antioxidants, none of the substances tested (ascorbic acid, gallic acid, and ethyl gallate) has proved to be of much value in the storage of frozen herring. Preliminary inquiries as to whether it is better to store frozen kippers or herring show that a better product is obtained by freezing the latter when fresh, and that the qual-

ity of frozen kippers may depend much on the degree of curing.

CANADIAN COLD STORAGE

On June 1, 1952, the frozen fish stocks in Canada amounted to a total of 35,641,000 pounds, of which 33,157,000 pounds were frozen fresh, and 2,484,000 pounds frozen smoked (estimates for firms failing to report on time are included). These holdings are higher by 6,211,000 pounds frozen fresh and lower by 230,000 pounds frozen smoked than those at May 1, 1952. Compared with June 1, 1951, they are lower by 1,420,000 pounds frozen fresh and by 586,000 frozen smoked. There was an "into-storage" movement for all classifications of 6.0 million pounds as compared with a similar movement of 01.2 pounds during May 1951. (Estimates for firms failing to report are not included in analyses by species which follow.

Cod: Frozen cod stocks on June 1, amounted to 7,294,000 pounds, consisting of 5,564,000 pounds frozen fresh (dressed and fillets) and 1,730,000 pounds frozen smoked. Apparent net decrease during May was 533,000 pounds as compared with a similar movement of 528,000 pounds during May 1951. The quantity frozen during May was 3,679,000 pounds.

Salmon: Frozen salmon stocks (frozen fresh and smoked, dressed and fillets) on June 1 were 4,362,000 pounds as compared with 2,612,000 pounds a year ago and 5,810,000 pounds the pre-

(Continued on next page)

FISHERMEN'S FIESTA

Eyes of the world will be on Los Angeles Harbor Sept. 19-20-21 when the 6th annual Fishermen's Fiesta will be held in San Pedro in observance of the world's largest commercial fishing port.

Dates of the three-day port celebration, sponsored by the San Pedro Chamber of Commerce and participated in by scores of civic and state dignitaries, religious leaders and fraternal groups, were announced yesterday by John Real, fiesta chairman.

Calling international attention to the harbor which annually produces more fish than any other in the world, this year's fiesta highlights will include a "Ladies Day" for southland club women; a square dance on Fishermen's Wharf; a street parade and street dance; a solemn high mass of thanksgiving at Mary Star of the Sea church; blessing of the fishing fleet and parade of approximately 100 decorated purse seiners in Los Angeles harbor. The Boats' decorations will conform to the parade's theme, "Musical Memories."

A skipperette, traditional queen of the fiesta, will be selected to reign over the colorful pageantry. Mayor Bowron is honorary chairman of the event.

More than 150,000 persons witnessed the spectacle last year, with an additional half million persons viewing it on television.

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Ebb 'n Flow

(Continued from preceding page)

vious month. Apparent net decrease during May was 1.5 million pounds as compared with a similar movement of 1.6 million pounds during the same month of 1951. Freezing during May amounted to 378,000 pounds.

Halibut: June 1 holdings of dressed frozen fresh halibut totaled 7,396,000 pounds as compared with 1,433,000 pounds a month earlier and 13,198,000 pounds a year earlier. May 1952 freezings amounted to 7,007,000 pounds.

RECORD LANDINGS

Landings of chinook salmon on Grays harbor have set a new record this season, according to statistics compiled by the Department of Fisheries for the period ending June 30.

The troll fleet delivered 2,426,000 pounds (dressed weight) of this species during the 3½-month span, compared with 2,318,000 pounds for the entire season of 1951, when the previous record was established.

The over-all ocean catch of chinooks covering deliveries at all Washington ports, is within range of the all-time

record of 4,827,000 pounds landed in 1946. The total through June 30, 1952, was 3,254,000 pounds, including 596,100 pounds landed at Seattle, 115,600 pounds on the Columbia river, and 116,300 at LaPush.

SEA SCOUTS

Word was received from the *Elmer F. Stone* All Coast Guard Ship No. 5554, V.F.W., that they are organizing a Sea Scout Troop in San Diego, California, at the Coast Guard Air Station.

The purpose is to train boys from the age of 14 years up in seamanship, safety precautions, first aid, and sportsmanship, according to Navy Chief Joseph Siwinski, in charge. The present enrollment now is about eight boys, and it is expected the troop will be increased to a full complement of 34 soon.

There will be rating and merit badges awarded for accomplishment in special fields of training such as navigation, radio, signaling, engine overhaul, rope knots and splicing, canvas sewing, rigging, etc.

No special qualifications for membership are required, and no membership dues are charged. Boys who are interested in joining this Sea Scout Troop are requested to address their communications to: Ship Captain Joseph Siwinski, Main Post Office Box 1581, San Diego, California.

PORT SECURITY CARDS

Commander Charles E. Sharp, of the Coast Guard Air-Sea Rescue Station has again emphasized the urgency of long-shoremen and fishermen obtaining their port Security cards.

"These cards are absolutely necessary

to obtain access to restricted harbor and waterfront areas because they identify the bearers as having been screened for security purposes," Sharp said.

The Coast Guard stated that applications for Port Security Cards may be filed at the custom's offices in the "B" Street Pier Bldg., San Diego.

SHIP REPAIRS

HARBOR BOAT BUILDING COMPANY, of Terminal Island, has just completed a new stem and repaired the bow of Nick Ursich's *Discovery* following damage which occurred in a collision . . . The *New Saturnia*, *Arlene "S," City of San Pedro*, and the *Camarillo* also went down the ways after regular bottom painting and check-up jobs there . . . Mario Tasso's *Benita* which was stranded March 30th, has received a renewed bottom, keel, rudder, and muc hof a new hull. With the refurbishing job went a new GM-671 auxiliary engine; monel shaft, bait wells, and refrigeration. This boat will be finished shortly . . . The *C. L. Arques*, kelp barge, also received its annual paint and overhaul job last month at this firm.

TUNA

(Continued from page 16)

in which tuna can be used to provide healthful meals. Hearty tuna casseroles make tasty and vitamin-rich cold weather fare; for Summer serving, a vegetable salad fortified with tuna makes an appetizing main course, and tuna salad sandwiches have long been warm-weather favorites. Tuna is also ideal for snack time, and, of course, a supply of tuna on the pantry shelf is a safeguard against any unexpected dinner guest.

To be sure of the best in canned tuna, check the labels and buy tuna from California, tuna packed at its flavorful best. As appealing to small fry as to grown-ups, tuna is an all-around food for nutrition, flavor, versatility and economy.

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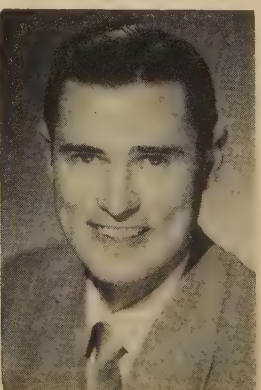
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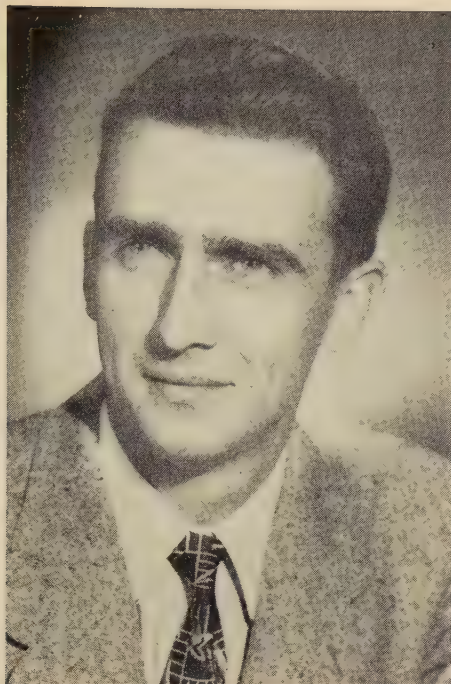
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HENRY ROLOFF
Information Director

The appointment of Henry Roloff, as information director of the Port of San Diego, points to another forward stride in establishing this rapidly expanding Port as one of the key West Coast Harbors, it was announced by John Bate, port director, this month.

Roloff's years of experience in both publicity and public relations capacities, combined with his familiarity of San Diego waterfront activities, makes him particularly valuable in his new position the Harbor Commissioners felt.

Formerly director of public relations with the San Diego Chamber of Commerce. Rolff also served as United Press correspondent for San Diego and Baja California following prior newspaper work with West Coast dailies.

Asked briefly for a statement as to future priorities in public relations and publicity for the Port of San Diego, Roloff said his immediate target would be to "tell the San Diego Harbor Story."

Amplifying this statement, he added that a regular program, outlining the Harbor's economic advantages as a port of call and trade will be effected. "There are shippers who must be 'sold' on using our port facilities. Also, our Mexican neighbors to the South must be made aware that San Diego Harbor is the closest deep-water port for their growing agricultural trade.

"There is also a need for greater development of the Harbor itself, and the story of past and future development must be stressed to the people of San

Diego: to fishermen, citizens, legislators, and businessmen alike."

A veteran of World War II, Roloff spent four years in China as a member of General Claire Chennault's world-famed "Flying Tigers;" an interlude that interrupted his education at Northwestern University, following his graduation from San Diego State College. After the War he returned to Northwestern and subsequently took a journalism course at the University of Minnesota.

As a native Californian, Roloff made his debut on the San Diego water front at the age of two, when his father retired from the Navy here. In 1944 he married the former Barbara Nieman. The Roloffs have three children, Lea, 7; Cathy, 4; and John Henry, 2. The family resides at 5137 Rincon Street, in San Diego.

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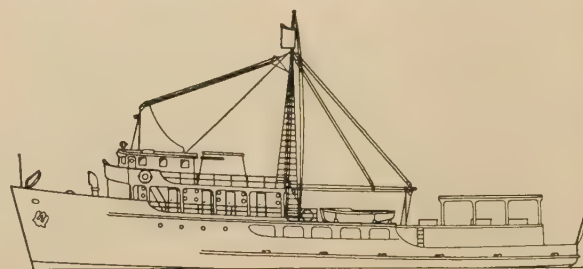
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Dennis R. Beck, former partner in the Weiss-Beck Insurance Agency, has been appointed executive vice-president of the Cutri Insurance Agency, it was announced by Cosimo A. Cutri, president.

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Mr. Beck has been associated with the insurance business for more than 19 years, and was formerly special agent in charge of the Maryland Casualty Company's San Diego offices.

In his new position Mr. Beck will be in charge of the general insurance functions of the Cutri Agency and will specialize in programming for business and professional firms as well as individuals.

The 27-year-old Cutri Agency has long specialized in marine and fishing boat insurance with the president himself handling this end of the business.

Glen C. Lyons, CLU, is manager of the life insurance phase, with F. H. Dain as special agent in charge of insurance for Naval personnel.



DENNIS R. BECK
Executive Vice President

Other members of the firm include Cosimo L. Cutri, Jr., as vice-president; Helen Roberts, office manager, and Lucille Feige, cashier.

In addition to the main offices at 1016 First National Bank Building, in San Diego, the Cutri Agency maintains a branch office at Broadway Pier with Joe Medina, Jr., in charge.

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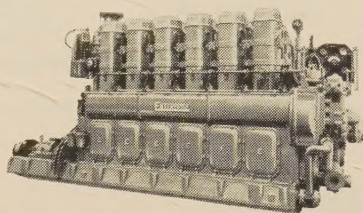
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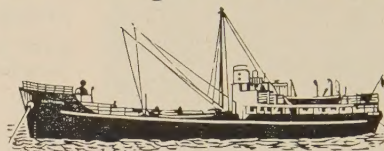


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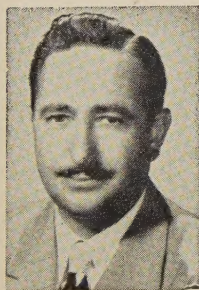
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